The recommended procedure for using the approval process is for the teacher to send home a copy of this form with each student to complete with parent guidance then carefully review the form before approving the project.

Elementary Science Project Research Plan and Approval Form

Elementary students designing their own experiments for science projects will need guidance to conduct safe and ethical science. **Teachers**, **students** and **parents** should work together to review and complete this form, so that everyone has a complete understanding of the intended project and is aware of any potentially dangerous or unethical situations *before* the student begins any testing. Each school should have a Science Fair Committee in place. Questions concerning this form and other science project concerns should be referred to the school Science Fair Committee.

Name of Student _____ **Project Title** _____

Guidelines for practicing safe and responsible science for students, parents and teachers

- Students are **not** allowed to do projects that are clearly dangerous. Testing involving firearms, knives and other items that could be considered weapons are not permitted. Testing involving fireworks or other explosives is not allowed. Testing involving controlled substances, prescription drugs, alcohol, and tobacco is not allowed. The use of any potentially hazardous chemicals, devices, and activities require direct supervision by a Designated Supervisor.
- Microbial experimentation (involving microscopic organisms such as bacteria, fungi, etc.) done by elementary students is potentially dangerous and should only be done with expert and careful supervision. Samples/organisms should **not** be collected, isolated and/or cultured from the environment as they are potentially pathogenic. This includes, but is not limited to, projects involving blood, growing mold and culturing swabs from the environment**.** Instead, all microbial samples/organisms should be obtained from a science supplier/company and are limited to Biosafety Level 1 (BSL-1). The BSL-1 Checklist must be used to guide safe practices such as sealing Petri dishes, proper disposal, etc.
- Projects involving invertebrates (e.g. worms, daphnia, fruit flies, snails, insects, etc.) must have a clear purpose that has scientific significance. Invertebrates should be treated humanely and intentionally harming them without a scientific purpose should not occur.
- Projects involving non-human vertebrates (including embryos, eggs, tadpoles, and other early life cycle stages of vertebrates) are held to a higher standard than projects testing invertebrates. Vertebrates must be treated humanely, and if a project could cause pain or distress to the vertebrate the student will need to design a new question and procedure. A project with a mortality rate of 30% or greater in any vertebrate group or subgroup is not permitted to be entered into the Science Fair even if the deaths were unintentional or accidental.
- In some cases, students may choose to use human subjects for their experiments. However, when an experiment could cause more than minimal risks to the human subject, the subjects (and their parents, when a minor) must be informed of, and consent to, the testing procedures before any experimentation begins.
- Students should always follow approved procedures and never perform unauthorized experiments.

Note: These guidelines are adapted from the *Brevard County Secondary Science Research Guide* and the *Intel International Science and Engineering Fair Guidelines.*

Research Plan

What question will you be testing? _____

_____

Describe your plan and procedure(s) to test this question. Be sure to include enough detail to ensure that safe and responsible guidelines are being followed. _____

_____

_____

_____

_____

Does your project involve:

Microbial Experimentation?
Check: No ☐ Yes ☐
If yes, you must obtain teacher approval and complete a *Qualified Scientist Form* and a *Designated Supervisor Form* before any testing begins. *BSL-1 Checklist* must be used.

Non-Human Vertebrates whose environment is being changed?
Check: No ☐ Yes ☐
If yes, you must obtain teacher approval and complete a *Qualified Scientist Form* and a *Designated Supervisor Form* before any testing begins.

Human Subjects where there is more than minimal risk involved?
Check: No ☐ Yes ☐
If yes, before any testing begins you must obtain teacher approval and complete a *Qualified Scientist Form*, a *Designated Supervisor Form* and *Informed Consent Forms* when more than minimal risks are involved. Visit www.societyforscience.org/isef/rulesandguidelines

NOTE: A qualified scientist is a medical doctor, veterinarian or individual with relevant science credentials. A science teacher, without these specific credentials, cannot be a "qualified scientist". All forms can be found in the Science Fair Handbook (see school Science Fair Contact) and on the BPS Elementary Programs Science Website. http://elementarypgms.brevardschools.org/science_fairs.htm

Does your project involve invertebrates (e.g. worms, daphnia, fruit flies, snails, insects, etc.)? Check: No ☐ Yes ☐
If yes, describe the purpose and scientific significance of your project: _____

_____

_____

Circle the category of this project: Biological Physical Environmental
Detailed descriptions of each category are in the Science Fair Handbook and on http://elementarypgms.brevardschools.org/science_fairs.htm

Teacher and/or Parent notes or concerns to be addressed: _____

_____

_____

_____

I have read the guidelines and agree to follow the procedures of this Research Plan and Approval Form.

Student signature _____ **Date** _____

Parent signature _____ **Date** _____

Teacher Approval:

☐ **I do not approve this project, as currently planned.**

Notes and/or Suggestions: _____

_____

_____

_____

☐ **I approve this project.**

I will encourage the student to adhere to the guidelines and procedures of this Research Plan and Approval Form.

Teacher signature _____ **Date** _____

****It is recommended that teachers make a copy of this signed form for their own records and send the original home with the student. If a Qualified Scientist will be used the student must provide him/her with a copy of the Research Plan and Approval Form.**

The Intel International Science and Engineering Fair (Intel ISEF) website provides additional resources and guidelines that can be a valuable resource for students, teachers, and parents. Visit http://www.societyforscience.org/isef/rulesandguidelines